



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/713,165

11/14/2003

Krishnan Chari

85500SLP

9809

70523

7590

09/05/2008

Carestream Health, Inc.
Patent Legal Staff
150 Verona Street
Rochester, NY 14608

EXAMINER

GROSS, CHRISTOPHER M

ART UNIT

PAPER NUMBER

1639

MAIL DATE

DELIVERY MODE

09/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/713,165	Applicant(s) CHARI ET AL.	
	Examiner CHRISTOPHER M. GROSS	Art Unit 1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) 1-12, 20, 21 and 30-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-19, 22, 28, 29 and 34 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1639

DETAILED ACTION

Responsive to communications entered 9/17/2007. Claims 1-22,28-34 are pending. Claims 1-12,20,21,30-33 are withdrawn. Claims 13-19,22,28,29,34 are examined herein.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/17/2007 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

The species election mailed 3/28/2008 is hereby vacated in view of applicant's amendment to the claims entered 5/6/2008, eliminating species drawn active sites capable of chemical or physical interactions.

Priority

This application has a filing date of 11/14/2003. Applicant makes no claim for the benefit of any prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c).

Specification

The amendment filed 2/12/2007 remains objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Please replace the paragraph beginning at **page 29, line 3**, with the following rewritten paragraph:

--A coating composition for making a protein microarray, the composition comprising a gelling agent or a precursor to a gelling agent and microspheres containing a dye for coloring microspheres cyan with colorant materials that have the property of very low fluorescence intensity such that the resultant colored microspheres do not substantially fluoresce when excited by visible light.—

Emphasis Added.

Response to Arguments

On p 9 in the 35 USC 132 section of applicant's remarks entered 9/17/2007, applicant has successfully pointed to support (i.e. p 3 lines 17-20 of the original specification) for “a dye for coloring microspheres cyan with colorant materials that have the property of very low fluorescence intensity such that the resultant colored microspheres do not substantially fluoresce when excited by visible light.”

Upon further consideration, however it is noted however that the specification as originally filed is only 22 pages, thus pg 29 does not exist. Accordingly, the objection to the specification amendment on 2/12/2007 is hereby maintained

Applicant is required to cancel the new matter in the reply to this Office Action.

Withdrawn Rejection(s) & Objection(s)

The rejection of claims 13-15,17-19,22-24,28 and 29 under 35 U.S.C. 102(b) as being anticipated by Bagchi et al (US Patent 5,055,379) is hereby withdrawn in view of applicant's amendments to the claims.

The objection to claims 25,26,27 in having incorrect status identifiers is hereby withdrawn in view of applicant's amendments to the claims.

The objection to claim 34 for having a duplication of the structure of CD-1 is hereby withdrawn in view of applicant's amendments to the claims.

The rejection of claim 34 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement regarding new matter is hereby withdrawn upon further consideration.

The rejection of claims 23,24,26,27 under 35 U.S.C. 103(a) as being unpatentable over **Bagchi et al** (US Patent 5,055,379) in view of **Chrissey et al** (1996 Nucleic Acids Research 24:3040-3037) is hereby withdrawn in view of applicant's cancellation of the claims.

The rejection of claims 23,24,26,27 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement regarding new matter is hereby withdrawn in view of applicant's cancellation of the claims.

Maintained Claim Rejection(s) - 35 USC § 103

Claims 13-15,17-19,22,28,29 and 16 plus 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bagchi et al** (US Patent 5,055,379) in view of **Chrissey et al** (1996 Nucleic Acids Research 24:3040-3037).

Please note that the above rejection has been modified from the original version to include claim 34, which is rejected for obviousness under 35 USC 103 for the following reasons.

Bagchi et al teach in column 41 under cyan dye, a structure which is virtually identical to elected species CD-1 shown in claim 34, however with the addition of a

Art Unit: 1639

methyl group ortho to the azomethine functional group, and according to MPEP

2144.09: compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (*compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH₂- groups*) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. In re Wilder, 563 F.2d 457, 195 USPQ 426 (CCPA 1977).

Absent evidence to the contrary, the cyan dye of Bagchi et al would have similar physiochemical properties to CD-1, the elected species of the Markush group set forth in claims 13 and 34. The examiner submits CD-1 represents an obvious variant of the preferred dye taught in the examples set forth in columns 41-42 of Bagchi et al.

Response to Arguments

In the remarks entered 9/17/2007, applicant argues the combination of Bagchi et al with Chrisey et al: (i) is missing all elements and (ii) there is no motivation to combine the teachings of Bagchi et al with that of Chrisey et al.

(i) Specifically in the last paragraph on p 10, applicant argues (a) Bagchi et al does not suggest biological use and (b) Chrisey et al do not teach spheres.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Here, the following is noted. (a) Fabrication of patterned DNA surfaces (i.e.

Art Unit: 1639

biological use) is provided by Chrisey et al in the title, at least. (b) Latex particles (spheres) comprising an obvious CD-1 cyan dye analog is taken as inherently having the physiochemical property of not substantially fluorescing when excited by visible light is provided by Bagchi et al in columns 41-42.

Additionally, in response to applicant's argument that Bagchi et al do not teach biological use, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant further argues in the last paragraph on p 10, applicant that Chrisey et al only teach biological molecules which fluoresce. In this regard, applicant's attention is respectfully invited to figure 7B where Chrisey et al disclose an alternative embodiment using chromogenic detection using horse radish peroxidase.

(ii) In the last paragraph on p 10, applicant argues that Chrisey et al does not have the teachings to introduce a bioactive site on to the particles according to Bagchi et al which interact with a nucleic acid, such as set forth in claim 13. In this vein, the examiner most respectfully submits that Chrisey et al teach in figure 6 employing the heterobifunctional crosslinker succinimidyl-4-(p-maleimidophenyl)butyrate (SMPB) to immobilize thiomodified single stranded oligonucleotides. Said SMPB, per Chrisey et al, the examiner most respectfully submits, is quite versatile and affords the capability of immobilizing any thiomodified single stranded oligonucleotide for hybridization, etc. (i.e. providing a bioactive side which interacts with a nucleic acid), through the maleimidyl

group, to any amine containing support, through the succinimidyl group, such as the gelatin grafted CD-1 analog containing latex particles developed by Bagchi et al.

Maintained Claim Rejection(s) – 35 USC § 112

Claims 13-19,22,28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement regarding new matter.

Response to Arguments

In the paragraph bridging pp 11-12 of remarks entered 9/17/2007, applicant has successfully pointed to support (i.e. p 3 lines 18-20 of the original specification) for the limitation concerning microspheres “that do not substantially fluoresce when excited by visible light.”

However, as mentioned in the office action mailed 5/17/2007, it is noted that according to p 8 line 15 of the present specification, halogen substitution at R1 of the quinoneimine portion of formula (I) provides the property of extremely low fluorescence, yet, the Markush group set forth in claim 13 includes species for which said substitution is not necessarily made and the disclosure does not provide any implicit or explicit support for which of the claimed non-halogenated species exhibit the property of not substantially fluorescing when excited by visible light.

New Claim Objections

Claims 15 and 16 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Art Unit: 1639

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Here, it appears dependent claim 15 broadens claim 13 to include more generic chemical activity and 16 merely repeats the bioactive limitation set forth in the base claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Gross whose telephone number is (571)272-4446. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Douglas Schultz can be reached on 571 272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher M Gross
Examiner
Art Unit 1639

cg

/JD Schultz, PhD/

Supervisory Patent Examiner, Art Unit 1635